

COVER ASSEMBLY FOR TRUCK BED EXTENDER

FIELD OF THE INVENTION

The present invention broadly relates to vehicle accessories. In particular, the present invention concerns accessories for the bed of a pick-up truck and the like. Specifically, the present invention is directed to a cover for a truck bed extender and the combination of a truck bed extender with such cover.

BACKGROUND OF THE INVENTION

Since the advent of motorized transportation, one of the most versatile and useful vehicles is the truck. Available truck models include general-purpose trucks and specialty vehicles. General-purpose trucks, also known as "pick-up trucks" enjoy widespread popularity both as a primary means of transportation and for their hauling capabilities.

As is well known, a pick-up truck includes a wheeled frame that supports a drive train and an engine. The engine is covered by an engine compartment or hood, and a passenger compartment or "cab" is provided for the drivers or passengers. An elongated bed extends rearwardly of the cab. This bed is provided as a storage and transportation space for objects to be hauled. Typically, the bed includes a deck or floor having a front wall and a pair of sidewalls. The rear end of the bed is then enclosed by a tailgate which pivots between a closed position and an open position. When in an open position, the tailgate forms a continuation of the floor of the bed.

With the increasing popularity of trucks as a primary vehicle, pick-up trucks have developed into what is referred to as a "long bed" truck and a "short bed" truck. The principal difference between these two trucks is simply the longitudinal lengths

that the truck bed extends rearwardly of the passenger cab. Long bed trucks naturally have a bed that is greater in length than a short bed truck.

As noted above, when the tailgate is open, the tailgate forms an extension of the truck floor. While this increases the available floor space upon which objects may be supported, there is no lateral or rear wall portions for the region above the tailgate. Accordingly, should objects be placed on this tailgate region, they would be more readily subject to loss from the truck bed during a transport operation. As a result, there has been recently developed an accessory for trucks called a truck bed extender. Typically, a truck bed extender is in the form of a C-shaped frame that has its ends pivotally supported by means of opposed bracket mounts secured in opposed relation at the ends of the sidewalls of the truck bed. This frame can pivot between a retracted position where it is located within the bed of the truck such that the tailgate may be closed and an extended position wherein it provides sides and an end for the region above the tailgate. When in the extended position, objects can be placed on the extension surface provided by the tailgate and yet retained by means of the c-shaped framework.

Since the bed of a truck is normally open, objects placed therein may be exposed to the elements. For this reason, it is known to provide truck beds with a cover assembly that typically attaches to the sidewalls and to the tailgate. These assemblies, often referred to as "tonto covers" not only provide shelter to objects in the truck bed but also obscure those objects from the view of passersby. Thus, objects in the truck bed are less likely to be stolen or otherwise removed by unauthorized personnel. Where greater security is desired, it is known to provide a truck bed with a locking box that can receive and secure small items, such as tools and the like.

When a tonto cover is used in conjunction with a truck bed extender, however, the tonto cover interferes with the operation of the extender since it is necessary to remove at least a portion of the cover to allow the extender to pivot from the retracted to the extended state. Moreover, the tonto cover does not extend over the framework of the truck bed extender so that objects are now more exposed to the environment and are more subject to unauthorized removal.

Accordingly, the present invention is directed to providing a versatile cover which may mount over a truck bed extender. This invention also is directed to the combination of the truck bed extender with such cover assembly.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a new and useful cover that may be used with a traditional truck bed extender.

It is another object of the present invention to provide a cover that forms an enclosure for a truck bed extender whether in the retracted or extended state.

A further object of the present invention is to provide a combination truck bed extender and cover therefor which is simple in manufacture and easy to use.

It is still a further object of the present invention to provide a cover for a truck bed extender and/or a combination truck bed extender and cover which is highly versatile in use both in the extended position and in the retracted position.

A still further object of the present invention is to provide a cover for a truck bed extender which does not interfere with the normal operation of the truck bed extender.

According to the present invention, then, a cover is adapted to mount over a frame extender of the vehicle wherein the frame extender includes a generally C-shaped framework having a pair of leg sections and a central section joining such leg

sections at one end thereof. Broadly, the cover includes first and second panels each having a front edge, a rear edge and a pair of side edges. A pair of side panels each having opposite first and second side edges, a front side edge and a rear side edge are joined to the first and second panels. Here, each of the side panels is joined to the first and second panels along the respective side edges thereof. An end panel has opposite first and second edges and opposite end edges. The end edges are joined to respective rear side edges of the side panels and the first and second edges are joined, respectively, to the rear edges of the first and second panels to define first and second rear seams. The first and second panels, the side panels and the end panel thereby form an enclosure with an opening and an interior that is sized and adapted to receive the C-shaped framework of the frame extender such that the end panel is positioned in confronting relation to the central section of the frame extender and such that the side panels of each position in confronting relation to respective leg section. A closure panel is then provided that is adapted to selectively open the opening of the enclosure to define an open state and to close the opening of the enclosure to define a closed state.

The present invention is also directed to a combination frame extender and cover therefor that is adapted to be positioned in the vehicle bed having bed sidewalls. Here, the combination includes a pair of mounts adapted to be secured in opposed relation to one another to the sidewalls of the vehicle bed to define a mounted state. A rigid, C-shaped framework is adapted to pivotally secure to the mounts in a secured state. The framework includes a pair of framework leg sections having first and second ends. A framework central section then interconnects the second ends of the framework leg sections. A transverse mounting bracket is secured to each of the first ends of each framework leg section and a trunnion pin

extends outwardly of each mounting bracket so that the trunnion pins extend in opposite directions from one another with the trunnion pins being positioned to engage the mounts when in the secured state. A cover is then adapted to enclose the framework, with this cover being as set forth above or including the structure described below.

To this end, the framework can include at least one leg extending transversely of the central section to have opposed leg ends. The cover can then include a pair of opposed pocket structures adapted to receive the opposite leg ends of the leg. If desired, a plurality of legs can extend transversely of the central section in which case there is a plurality of pairs of opposed pocket structures. These pocket structures are located along the first and second seams of the cover.

The cover can include a releasable fastener associated with the closure panel with this releasable fastener operative to retain the closure panel in the closed state. Here, the closure panel may have a first edge that is secured to the first panel along the front edge thereof. If desired, the closure panel can be an integral extension of this first panel. One half of the releasable fastener is then secured on a second edge of the closure panel opposite the first edge, and the second panel can include another half of the cooperative fastener along the front edge thereof. This fastener may be a zipper.

The side panels of the cover can include a flap extending forwardly of the front side edge thereof, and cooperative fasteners are operative to secure each of these flaps around a portion of the framework, such as the transverse bracket at each end of the leg sections. If desired, one half of the cooperative mating fasteners may be located along the flaps with the other half of the cooperative mating fasteners being affixed to the transverse brackets. Here, also, an opening may be

formed in each of the side panels proximate to the front side edge thereof with this opening sized and adapted to mateably received the trunnions on the framework.

Each of the panels forming the cover may conveniently be formed of a flexible material. This flexible material may be selected from a group consisting of canvas, plastic and synthetic fabrics.

Finally, the framework may be formed by a plurality of C-shaped members oriented in parallel spaced apart relation to one another. These C-shaped members may be secured to one another by a leg extending transversely at the central section and by the mounting brackets.

These and other objects of the present invention will become more readily appreciated and understood from a consideration of the following detailed description of the exemplary embodiment of the present invention when taken together with the accompanying drawings, in which:

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the rear portion of a bed of a truck showing a truck bed extender according to the prior art mounted therein in a retracted position;

Figure 2 is a perspective view, similar to Figure 1, but showing the truck bed extender of the prior art in an extended position;

Figure 3 is a perspective view, partially broke away, showing the truck bed extender cover according to the exemplary embodiment of the present invention;

Figure 4 is a perspective view, similar to Figure 1, showing the truck bed cover of Figure 3 enclosing the truck bed extender in the retracted state and with the cover in a first mounted orientation;

Figure 5 is a perspective view, similar to Figure 4, but showing the truck bed cover enclosing the truck bed extender with the truck bed extender in a retracted state and the cover in a second state of orientation;

Figure 6 is a perspective view, similar to Figure 5, but showing the truck bed extender in the extended state with the cover in the second state of orientation;

Figure 7 is a perspective view of a truck bed extender modified according to the exemplary embodiment of the present invention;

Figure 8 is an enlarged view showing one end portion of the truck bed extender of Figure 7 receiving the truck bed cover of Figure 3 in the first state of orientation;

Figure 9 is a side view in cross-section of an end portion of the truck bed extender of Figure 7 received in the cover of the present invention;

Figure 10 is a cross-sectional view taken about lines 10-10 of Figure 9; and

Figure 11 is a cross-sectional view taken about lines 11-11 of Figure 8.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

The present invention broadly concerns accessories for trucks and similar vehicles. Specifically, however, the present invention concerns a cover used in conjunction with a truck bed extender. Thus, the invention includes both the cover itself as well as the combination of a truck bed extender with the cover.

In order to understand this invention, it is perhaps helpful to review the structure of a typical truck bed assembly according to the prior art. Such a truck bed extender is shown in a retracted position in Figure 1 and an extended position in Figure 2. For purposes of this discussion, a modified truck bed extender according to the present invention is depicted in Figure 7. In these figures, truck bed extender 10 is shown to be a C-shaped framework 12 formed by three C-shaped tubular

members 14 that are mounted and spaced apart, generally parallel relationship by means of a pair of upright legs 16 and end brackets 18. Tubular members 14 may be of any suitable material, such as a steel tube of circular cross-section. Legs 16 are generally constructed of the same material and are secured thereto by welding or mechanical fasteners. Each tubular member 14 includes a central section 20 and a pair of leg sections 22 and 24.

As is shown in Figure 1, truck bed extender 10 may be disposed in the bed 28 of a truck 26. In Figure 1, it may be seen that central section 20 of each tubular member 14 extends generally transversely of truck bed 28 between sidewalls 30 thereof. Truck bed extender 10 is mounted to sidewalls 30 by means of end brackets 18 so that truck bed extender 10 may be pivoted from the retracted position shown in Figure 1 to the extended position shown in Figure 2. As is shown in these figures, truck 28 includes a tailgate 32 that, when opened as shown in these figures, forms an extension of floor 34 of truck bed 28. In Figure 2, it may be appreciated that, when in the extended position, legs sections 22 and 24 form a fence-like continuation of sidewalls 30 while central sections 20 of tubular members 14 form an end fence for the extended truck bed. Thus, tubular members 14 assist in maintaining items placed in truck bed 28 in a secured state therein.

The mounting of truck bed extender 10 may be more fully appreciated in reference to Figure 7, although Figure 7 shows some modifications to truck bed extender 10 in the form of cooperative fasteners 74 in the form of one-half a pair of mating snaps. The general structure shown in Figure 7 is otherwise the same as that depicted in Figures 1 and 2. Here, it may be seen that end brackets 18 have a centrally located trunnion pin 36 affixed centrally thereof with the structure of this trunnion pin 36 being best shown in Figure 8. Here, it may be seen that trunnion pin

36 has a shaft 38 and an enlarged head 40. A pair of mounts 42 are provided with a typical truck bed extender 10 with mounts 42 adapted to be secured to sidewall 30 of truck bed 28 adjacent to the rearward edge thereof. Brackets 42 each has an open interior 44 which communicates with a slot 46 so that a head 40 of each trunnion 36 may be received in interior 44 with shaft 38 projecting through slot 46. With this arrangement, and with reference again to Figures 1 and 2, it should be appreciated that truck bed extender 10 may pivot between the extended position and the retracted position on shafts 38 received in mounts 42.

Having now described the general structure of truck bed extender, it may be appreciated that extender cover 50 according to the present invention has adapted to enclose truck bed extender 10 whether it is placed in the extended position or the retracted position. Extender cover 50 is introduced in Figure 3 where it may be seen that extender cover 50 includes spaced apart first and second panels 52 and 54, an end panel 56, a pair of side panels 58 and an end closure panel 60. Panels 52, 54, 56, 58 and 60 may be formed of a flexible fabric material, such as a water resistant canvas, but may also be constructed of any other suitable materials presently known or hereinafter developed. For example, these panels could be constructed of a plastic sheeting or synthetic material such as polyester and the like. These panels are sewn together to create a generally rectangular enclosure having an interior 62 that is sized to receive truck bed extender 10 in a fairly close fitted relationship. These panels may be sewn together along suitable seam lines, as is known in the art.

Moreover, as is shown with respect to Figures 4 and 5, extender cover 50 may receive truck bed extender 10 alternatively in two states of orientation. In Figure 4, it may be seen that, in a first orientation state, cover 50 is mounted on truck

bed extender 10 such that first panel 52 forms a bottom panel for cover 50 when extender 10 is in the retracted position with second panel 54 forming an upper panel therefor. In the second orientation state, as depicted in Figure 5, first panel 52 forms a top panel for cover 50 while second panel 54 forms a bottom panel for cover 50 when the truck bed extender 10 is in the retracted position. In either case, end closure panel 60 may be open or may be closed by means of some fastener, such as a zipper fastener 64. Zipper fastener 64 includes one half 66 that extends along edge 61 of end closure panel 60 with the other half 68 extending along the edge 55 of second panel 54.

In either orientation state, it should be appreciated that cover 50 may pivot in conjunction with truck bed extender 10 between the retracted position, such as shown in Figure 5, to the extended position shown in Figure 6. In either position, items that are to be transported and that are located in the region bounded by truck bed extender 10 may be protected against the elements and the viewer passersby by means of cover 50. Moreover, such items may be enclosed within cover 50 by securing end closure panel 60 by means of zipper 64.

As noted above, it is desired that extender cover 50 be dimensioned so that truck bed extender 10 be received there in a close fitted engagement. Therefore, in order to accommodate the opposite ends of each leg 16, it should be appreciated that the junction of each of first and second panels 52 and 54 with end panel 56 includes gathers that form pocket structures 70. Moreover, in order to secure cover 50 on truck bed extender 10, a pair of securing flaps 72 are located along the rearward vertical edges of each side panel 58. To this end, each flap 72 may be formed as a continuous integral extension of each sidewall 28. With reference again to Figure 7, it may now be appreciated that truck bed extender has been modified by

the inclusion of four snaps 74 that are located on each end bracket 18. These snaps 74 may be mounted conveniently by machine screws or by any other attachment technique, as desired.

With reference to Figures 8 and 11, it may be seen that a representative of flap 72 may be reversed on itself to extend around an end bracket 18 and fastened to snap 74 by means of a cooperative mating snap 76 with there being a corresponding snap 76 for each snap 74. Snaps 76, as is shown in Figure 8, are secured to flap 72 in any suitable manner, such as by a rivet 78. It should be understood, however, that the mating fasteners in the form of snaps 74,76 could be mounted entirely on the cover. Here, the snaps 74 would be secured to side panels 58.

Further, to accomplish mounting of cover 50 around mounting brackets 18, it is necessary to accommodate each of trunnion pins 36. Accordingly, each side panel 58 is provided with a small opening 80 (Figures 3, 10 and 11). In order to mount cover panel 50 on truck bed extender 10, then, truck bed extender 10 is lifted out of truck bed 28 by removing trunnion pins 36 from their corresponding mounts 42 leaving mounts 42 fastened to sidewalls 30 of truck bed 28. End closure panel 60 of cover 50 is opened and framework 12 is inserted into the interior 62 of cover 50 trunnion pins 36 on end brackets 18 are then inserted through openings 80 so that enlarged heads 40 and shaft 38 protrudes from the interior of cover 50. Securing flaps 72 then enclose brackets 18 and are secured to brackets 18 by means of cooperating snap portions 74 and 76. Framework 12 may be then remounted in bed 28 by engaging trunnion pins 36 with mounts 42 in the standard manner. When mounted, as shown in Figures 9 and 10, the opposite ends of legs 16 are disposed in pockets 70.

As noted above, cover 50 may be mounted on truck bed extender 10 so that, when extender 10 is in the retracted position, end closure panel 60 opens at the top (Figure 4) or at the bottom (Figure 5). In either state, access to interior 62 and the region bounded by framework 12 may be had by opening tailgate 32 and subsequently opening end closure panel 60. In the state shown in Figure 4, end closure panel 60 may be laid onto the surface of tailgate 32 in order to protect the surface thereof. When tailgate 32 is closed, however, it is more difficult to access the interior 62 and the region bounded by framework 12; this helps protect the contents thereof from unwanted removal.

When extended, as is shown in Figure 6, access to the region bounded by framework 12 and formed by the interior 62 may be had by opening end closure 60. This again would be either as a top closure or as a bottom closure, depending upon the initial orientation of cover 50 on truck bed extender 10.

In any case, it should now be appreciated that cover 50 protects items received therein from the elements whether truck bed extender 10 is in the retracted position or the extended position. Moreover, when in the retracted position, cover 50 restricts access to items within truck bed extender 10 and interior 62. Restricted access can be enhanced, if desired, by including a locking structure on the zipper closure to resist its being opened. Further, when in the retracted state, the provision of cover 50 along with the closing and locking of tailgate 32 further restricts access to the interior of cover 50 and the region bounded by framework 12.

Accordingly, the present invention has been described with some degree of particularity directed to the exemplary embodiments of the present invention. It should be appreciated, though, that the present invention is defined by the following claims construed in light of the prior art so that modifications or changes may be

made to the exemplary embodiments of the present invention without departing from the inventive concepts contained herein.